



UNITED STATES PATENT AND TRADEMARK OFFICE

ml

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/911,847	07/24/2001	David Pierre Gendron	1027-002US01	3913
38356 7590 02/14/2007 BROOKS & CAMERON, PLLC 1221 NICOLLET MALL #500 MINNEAPOLIS, MN 55403			EXAMINER NASH, LASHANYA RENEE	
			ART UNIT 2153	PAPER NUMBER

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/14/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 09/911,847	Applicant(s) GENDRON ET AL.	
	Examiner LaShanya R. Nash	Art Unit 2153	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This action is in response to an Amendment filed 12 December 2006. Claims 1-6, 8-20, 22-30 are presented for further consideration. Claims 1, 12, 16 and 23 are currently amended.

Response to Arguments

Applicant's arguments filed 12 December 2006 have been fully considered but they are not persuasive. In considering the Applicant's arguments the following factual remarks are noted:

(I) Applicant contends that Cooke does show reconciling invalid data in at least one of image data and patient data and revision history associated with the reconciled data.

In considering (I), Applicant contends that Cooke does show reconciling invalid data in at least one of image data and patient data and a revision history associated with the reconciled data. Examiner respectfully disagrees. Examiner asserts that Cooke expressly discloses a revision history associated with the image and patient data (i.e. study), which maintains records of prior annotations and edits performed to the aforementioned data (Cooke column 10, line 60-column 11, line 3). As a result, Examiner maintains the rejections to the amended claims as set forth below in the Office action.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-28 are rejected under 35 U.S.C. 102(e) as being anticipated by Cooke, Jr. et al. (US Patent 6,574,629), hereinafter referred to as Cooke.

In reference to claim 1, Cooke discloses a method for receiving image data and then determining any inconsistencies with the image data for subsequent routing to remote locations on the network (abstract; column 2, line 57-column 3, line 2). Cooke discloses:

- A method (Figure 4; column 9, line 65-column 10, line 11) comprising:
 - Receiving a network communication including an asset having image data and patient data (i.e. study transmitted to network gateway; column 16, lines 48-51; Figure 4-item 61);
 - Storing the asset and validating the patient data in parallel (column 10, lines 30-38; column 16, lines 58-65; Figure 4-items 61-62), wherein validating the patient data includes issuing a reconciliation event (i.e. provide “fixup” GUI when study is broken) when the

patient data is invalid or incomplete (Figure 12&15; column 23, lines 40-64);

- Requesting the invalid or incomplete patient data to reconcile the patient data during the reconciliation event (Figures 12&15; Figure 4-item 64) and to add reconciled patient data (column 16, lines 48-65; column 23, lines 40-64) and a revision history associated with the reconciled invalid data to the asset data (i.e. image annotations and edit; column 10, line 60-column 11, line 3); and
- Forwarding the asset with the added reconciled patient data and the revision history (column 11, lines 4-17) upon reconciling the patient data (column 17, line 1-column 18, line 52; Figure 4-item 65).

In reference to claim 12, Cooke discloses a method for receiving image data and then determining any inconsistencies with the image data for subsequent routing to remote locations on the network (abstract; column 2, line 57-column 3, line 2). Cooke discloses:

- A method (Figure 4; column 9, line 65-column 10, line 11) comprising:
- Receiving a number of packets with multiple software modules listening to a single communication socket of a TCP/IP-based network (Figure 1-item 9), (column 6, line 65-column 7, line 15), wherein the packets contain a storage asset having image data and

patient data (i.e. study transmitted to network gateway; column 16, lines 48-51; Figure 4-item 61);

- Selectively process the patient data and the image data with separate software modules to store the storage asset and validate the patient data in parallel as the packets are received (column 10, lines 30-38; column 16, lines 48-61; Figure 4-items 61-62);
- Issuing a reconciliation event (i.e. provide “fixup” GUI when study is broken) when the patient data is invalid or incomplete (Figure 12&15; column 23, lines 40-64);
- Requesting the invalid or incomplete patient data to reconcile the patient data during the reconciliation event (Figures 12&15; Figure 4-item 64) and to add reconciled patient data (column 16, lines 48-65; column 23, lines 40-64) and a revision history associated with the reconciled invalid data to the asset data (i.e. image annotations and edit; column 10, line 60-column 11, line 3); and
- Forwarding the asset including the reconciled patient data and the revision history associated with the reconciled patient data and the revision history (column 11, lines 4-17) to a network destination upon validating the patient data and prior to receiving all of the image data (column 17, line 1-column 18, line 52; Figure 4-item 65).

In reference to claim 16, Cooke discloses a network element for receiving image data and then determining any inconsistencies with the image data for subsequent routing to remote locations on the network (abstract; column 2, line 57-column 3, line 2). Cooke discloses:

- A router (i.e. network gateway; Figures 1&4-item 6; column 9, line 65-column 10, line 50) comprising:
- A computer-readable medium storing routing information mapping destinations to routes within a network (i.e. IP routing; column 15, lines 44-46; column 15, line 55-column 17, line 5; table 3);
- A storage manager software module (Figure 4-item 62) that receives a network communication including an asset having image data and patient data (i.e. study transmitted to network gateway; column 16, lines 48-51; Figure 4-item 61), and stores the asset to a storage device (column 10, lines 30-38; column 16, lines 58-65; Figure 4-item 62);
- A validation software module (Figure 4-item 62) that validates the patient data in parallel with the storage of the asset, wherein the validation software issues a reconciliation event (i.e. provide "fixup" GUI when study is broken) when the patient data is invalid or incomplete (i.e. broken study; column 2, line 57-column 3, line 2; column 16, lines 48-60) to reconcile the invalid or incomplete data (Figure 12&15; column 23, lines 40-64);

- A verification module (Figure 4-item 61) to validate image data and patient data (i.e. study; Figures 12-13; column 1, lines 53-62; column 8, lines 39-47) of a network communication (column 2, line 57- column 3, line 2; column 16, lines 48-65);
- A patient manager (Figures 12&15; Figure 4-item 64) that reconciles invalid data (i.e. fix broken study) in at least one of the image and patient data (column 16, lines 48-65; column 23, lines 40-64) and a revision history associated with the reconciled invalid data (i.e. image annotations and edit; column 10, line 60-column 11, line 3); and
- A routing module (Figure 4-item 65) that forwards the storage asset with the reconciliation data and the revision history associated with the reconciled invalid data (column 11, lines 4-17) added to the network destination in accordance with the routing information upon the validation of the patient data (column 17, line 1-column 18, line 52).

In reference to claim 3, Cooke shows the method further comprising: receiving the network communication with multiple software modules; and storing the asset and validating the patient data with different software modules (column 15, lines 57-65; Figure 4).

In reference to claims 4, 13, and 18 Cooke shows the method wherein the patient data comprises medical data and the image data comprises medical images (Column 1, lines 53-62; column 8, lines 39-47; Figure 26-27).

In reference to claims 5, 14 and 19 Cooke shows the method wherein the medical data comprises patient information, session information and study information (column 1, lines 53-62; column 8, lines 34-47; Figure 12-13, 15-18).

In reference to claims 6, 15 and 20 Cooke shows the method wherein validating the patient data comprises syntactically and semantically validating a number of DICOM tags within the patient data (column 16, lines 50-65; column 10, line 54-column 11, line 25; Figure 15).

In reference to claim 8, Cooke shows the method wherein storing the pixel data comprises buffering the storage asset to a local storage medium (column 10, line 29-38).

In reference to claim 9, Cooke shows the method wherein forwarding the network communication upon validating the asset comprises initiating and outbound network communication prior to receiving all of the patient data (i.e. determining if study has been fixed; column 23, lines 51-61).

In reference to claim 10, Cooke shows the method wherein receiving the network communication comprises receiving a number of packets from a network, and where storing the image data and validating the patient data commences after receiving a first portion of the packets (i.e. checking each image portion of a study; column 15, lines 55-65; column 16, lines 48-67).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11, 22-23 and are rejected under 35 U.S.C. 103(a) as being unpatentable over Cooke, Jr. et al. (US Patent 6,574,629) in view of Fendick et al. (US Patent 6,252,857), hereinafter referred to as Cooke and Fendick, respectively .

In reference to claim 23, Cooke discloses a method employed for receiving image data and subsequently determining any inconsistencies with the image data prior to routing to remote locations on the network (abstract; column 2, line 57-column 3, line 2). Cooke discloses:

- A method (Figure 4; column 9, line 65-column 10, line 11) comprising:

- Storing routing information (table 3) mapping destinations to routes within a network (i.e. IP routing; column 15, lines 44-46; column 15, line 55-column 17, line 5);
- Receiving (Figure 4-item 60) a network communication comprising destination information (column 10, lines 12-38; column 15, line 65-column 16, line 5) and a storage asset having image data and patient and (i.e. study; Figures 12-13; column 1, lines 53-62; column 8, lines 39-47);
- Validating (Figure 4-item 62) the image data and patient data of the storage asset, wherein validating includes issuing a reconciliation event (i.e. provide “fixup” GUI when study is broken) when one of image data and the patient data is invalid or incomplete (i.e. broken study; column 2, line 57-column 3, line 2; column 16, lines 48-60), (Figure 12&15; column 23, lines 40-64);
- Requesting the invalid or incomplete patient data to reconcile the patient data during the reconciliation event (Figures 12&15; Figure 4-item 64) and to add reconciled image data, and a revision history associated with the reconciled invalid data to the asset data (i.e. image annotations and edit; column 10, line 60-column 11, line 3) and patient data to the storage asset (column 16, lines 48-65; column 23, lines 40-64);
- Storing a plurality of outbound network communications in a plurality of queues, wherein the outbound network communications

include references to the storage asset, (column 10, lines 47-51; column 30, lines 1-30; table 7);

- Selecting a plurality of routes from the routing information (column 15, lines 55-column 16, line 5);
- Forwarding (Figure 4-item 65) the network communication with the added reconciled image data, and the revision history associated with the reconciliation event (column 11, lines 4-17) according to the routing information (column 17, line 1-column 18, line 52).

Although Cooke discloses substantial features to the claimed invention, the reference fails to explicitly disclose the forwarding the network communications to selected routes in parallel. Nonetheless, this modification to the routing method would have been obvious to one of ordinary skill in the art at the time of the invention, as further evidenced by Fendick.

In an analogous art, Fendick discloses a method for simultaneous transmission of information to multiple destinations or "multicasting", (column 2, lines 50-56 and Figure 2). One of ordinary skill in the art would have been motivated to implement this modification into the routing method in order to support the concurrent transmission of medical data to a plurality of destinations (e.g. hospital areas, off-site facilities), thereby increasing system flexibility and ease of use, (Schnellinger column 5, lines 30-48).

In reference to claims 11 and 22, Cooke discloses forwarding the network communication to a plurality of storage systems (column 9, line 65-column 10,

line 29). However, the reference fails to explicitly disclose the forwarding the network communications to selected routes in parallel. Nonetheless, this modification to the routing method would have been obvious to one of ordinary skill in the art at the time of the invention, as further evidenced by Fendick.

In an analogous art, Fendick discloses a method for simultaneous transmission of information to multiple destinations or "multicasting", (column 2, lines 50-56 and Figure 2). One of ordinary skill in the art would have been motivated to implement this modification into the routing method in order to support the concurrent transmission of medical data to a plurality of destinations (e.g. hospital areas, off-site facilities), thereby increasing system flexibility and ease of use, (Schnellinger column 5, lines 30-48).

In reference to claim 24 Cooke shows the method wherein selecting a plurality of routes (column 15, lines 55-65) comprises selecting routes to a plurality of archive systems (column 9, line 65-column 10, line 29).

In reference to claim 25, Cooke shows the method further comprising storing a set of routing rules (table 3; Figure 9); comparing at least a portion of the data to the set of routing rules; and selecting a plurality of routes from the routing information based on the destination information and a result of the comparison (column 17, line 13-column 18, line 52).

In reference to claim 26, Cooke shows the method wherein the network comprises a medical imaging network and the network communication complies with the DICOM protocol (column 5, line 55-column 6, line 25), and further wherein storing routing information comprises storing routing information mapping Application Entity Names (AENames) (i.e. routing name for modality) to routes within the medical imaging network (column 17, lines 34-60).

In reference to claim 27, Cooke shows the method wherein selecting a plurality of routes from the routing information comprises comparing an AENAME defined within the network communication to the AENAME defined within the routing information (column 15, line 55-column 16, line 48).

In reference to claim 28, Cooke shows the method wherein the network communication complies with the DICOM protocol, and further wherein comparing at least a portion of the medical asset data comprises: parsing the medical asset data to identify a set of DICOM tags and corresponding data (column 10, lines 29-column 11, line 3; column 16, line 55-column 16, line 65); and assessing a routing rule from the set of routing rules based on the DICOM tags and corresponding data (column 15, lines 55-column 16, line 48).

Claims 2 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cooke as applied to claim 1 above, and further in view of Cawley (US Patent 5,361,334), hereinafter referred to as Cawley .

In reference to claims 2 and 17, Cooke shows the method comprises instantiating a validation software module (Figure 4-item 64) and a storage manager software module (Figure 4-item 62), (column 16, lines 48-61). However, the references do not show storing and receiving the asset in a ring buffer. Nonetheless, storing information in a ring buffer was well known in the art at the time of the invention, as further evidenced by Cawley. Therefore this would have been an obvious modification to the aforementioned medical image routing method to one of ordinary skill in the art at the time of the invention.

In an analogous art, Cawley discloses a method for routing network communication (i.e. packets) that employs ring buffers for receiving and storing the data, and subsequently forwarding this data to the intended destination (column 2, line 45 to column 3, line 14). One of ordinary skill in the art would have been motivated to incorporate a ring buffer in the aforementioned method, so as to prevent data collision and gridlock during transmission, thereby increasing network efficiency (Cawley; column 2, line 60-65 and column 3, lines 2-6).

Claims 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cooke and Fendick as applied to the claim 23 above, and further in view of Martin et al. (US Patent 6,532,455), hereinafter referred to as Martin

In reference to claim 29, Cooke and Fendick show the method wherein storing a set of rules conform to a user-defined grammar for routing the medical

asset data, (Cooke; column 16, line 66-column 18, line 52; Figures 8-9). However the references fail to show XML-based set of rules. Nonetheless, this would have been an obvious modification to the aforementioned router method to one of ordinary skill in the art at the time of the invention, as further evidenced by Martin.

Martin shows a method for content-based document routing that employs a rule engine defined in XML format, (column 1, lines 35-57 and column 2, lines 30-36). One of ordinary skill in the art would have been so motivated to implement this modification into the routing method so as to implement user-defined routing mechanisms, thereby increasing the system efficiency and ease of use (Martin column 2, lines 15-23).

In reference to claim 30, Cooke shows the router method to further comprise presenting an interface for receiving user input that defines the user-defined grammar, (column 16, line 66-column 18, line 52; Figures 8-9).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is

filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action. Any inquiry concerning this communication or earlier communications from the examiner should be directed to LaShanya R Nash whose telephone number is (571) 272-3957. The examiner can normally be reached on 9am-5pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenton Burgess can be reached on (571) 272-3949. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LaShanya Nash
Art Unit 2153
January 31, 2007



KRISNA LIM
PRIMARY EXAMINER